

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application.

LISTING OF CLAIMS

1-14. (Canceled)

15. (Currently amended) A recombinant eucaryote cell comprising:

i) a first genetic construct incorporated in the genome of said cell, said genetic construct comprising a genetic sequence encoding a poison protein selected from ~~a poison/antidote~~ the group consisting of control of cell division B (CcdB), partition E (ParE), relax E (Rel E), killing inducing (Kid), death on curing (Doc) and MazF proteins, wherein said genetic sequence is under the control of an inducible promoter/operator and, wherein said poison protein is toxic to said cell;

ii) a genetic sequence integrated into the genome of said cell, wherein said genetic sequence is the target of the poison protein or said genetic sequence encodes the target of the poison protein;

[[ii)] iii) a genetic sequence encoding an antidote molecule to said poison protein ~~with the condition that, wherein the genetic sequence is operably linked to a promoter, and wherein~~ the sequence encoding the antidote molecule is not native to said cell; and

[[iii)] iv) an additional construct comprising a nucleic acid to be integrated into the first construct and a nucleic acid sequence which facilitates recombination with a nucleic acid sequence in said first construct, wherein recombination between said first construct and said additional construct prevents toxicity of said first construct.

16. (Previously presented) The recombinant eucaryote cell according to claim 15, wherein the genetic sequence encoding the antidote molecule is under the control of an inducible promoter/operator.

17-18. (Canceled)

19. (Withdrawn) The recombinant eucaryote cell according to claim 15, wherein said cell is a plant cell.

20. (Withdrawn) The recombinant eucaryote cell according to claim 15, wherein said cell is an animal cell.

21. (Withdrawn) The recombinant eucaryote cell according to claim 20, wherein said animal cell is a mammalian cell.

22. (Previously presented) The recombinant eucaryote cell according to claim 15, wherein said cell is a yeast cell.

23. (Previously presented) The recombinant eucaryote cell according to claim 15, wherein the inducible promoter/operator is induced by a non-toxic compound.

24. (Previously presented) The recombinant eucaryote cell of claim 23, wherein the non-toxic compound is selected from the group consisting of an exogenous compound and a compound that is synthesized by the eucaryote cell.

25. (Canceled)

26. (Previously presented) The recombinant eucaryote cell according to claim 15, wherein the first genetic construct is integrated into the genome of a specific cell compartment.

27. (Previously presented) The recombinant eucaryote cell according to claim 26, wherein the specific cell compartment is a chloroplast.

28. (Currently amended) The recombinant eucaryote cell according to claim 15, ~~further comprising wherein the genetic construct comprising a genetic sequence encoding a poison protein comprises~~ a selectable marker bordered by two different toxic genes.

29. (Withdrawn) A production and selection method of a genetically modified eucaryote cell or organism having integrated into its genome an exogenous DNA fragment, said method comprising the steps of (i) providing a recombinant eucaryote cell or organism with a genetic construct carrying a toxic gene integrated therein; (ii) providing a construct carrying an exogenous DNA fragment; (iii) obtaining integration of said exogenous DNA fragment in the genome of the recombinant eucaryote cell at the insertion site where the genetic construct is integrated; (iv) selecting the genetically modified eucaryote cell or organism having integrated said exogenous DNA fragment under conditions allowing the expression of the toxic molecule in said cells or organisms; and (v) recovering said genetically modified eucaryote cells or organisms which do not express said toxic molecule following the integration of the exogenous DNA fragment.

30. (Withdrawn) The production and selection method according to claim 29, wherein said exogenous DNA fragment is integrated into the genome of the recombinant eucaryote cell or organism by homologous recombination between the sequence of said exogenous DNA fragment and the sequence of the genetic construct integrated into the genome of the recombinant eucaryote cell or organism.

31. (Withdrawn) The production and selection method according to claim 29, wherein said eucaryote cell or organism is a plant cell or a plant transfected by a Ti-plasmid incorporating the toxic gene.

32. (Withdrawn) The method of claim 31, wherein a complete transgenic plant is obtained from the recovered genetically modified plant cell.

33. (Withdrawn) The production and selection method of claim 31, wherein the Ti-plasmid incorporating the toxic gene is present in *Agrobacterium tumefaciens*.

34. (Currently amended) The recombinant eucaryote cell according to claim 15, wherein the genetic construct comprising a genetic sequence encoding a poison protein further comprises a selectable marker.

35. (Previously presented) The recombinant eucaryote cell according to claim 15, wherein the genetic sequence encoding the antidote is in an episomal DNA.

36. (Previously presented) The recombinant eucaryote cell according to claim 15, wherein the genetic sequence encoding the antidote is added to the first construct.

37. (Withdrawn) The recombinant eucaryote cell according to claim 24, wherein said compound that is synthesized by the eucaryote cell is synthesized at a specific stage of development.

38. (Withdrawn) The recombinant eucaryote cell according to claim 24, wherein said compound that is synthesized by the eucaryote cell is synthesized in a specific tissue.

39. (Withdrawn) The recombinant eucaryote cell according to claim 26, wherein the specific cell compartment is a mitochondrion.

40. (Withdrawn) The recombinant eucaryote cell according to claim 28, wherein the selectable marker is bordered by two identical toxic genes.

Application No.: 10/507,923
Filing Date: July 19, 2005

41. (Previously presented) The recombinant eucaryote cell according to claim 15, wherein the sequence encoding the toxic molecule is flanked by regions allowing homologous recombination.

42. (Previously presented) The recombinant eucaryote cell according to claim 15, wherein said first construct comprises LB and RB repeats.